



# Background

The Department of Defense's (DoD's) formal environmental cleanup efforts began in 1975 under the Army's Installation Restoration Program (IRP). Over time, environmental laws and regulations required more systematic and far-ranging environmental cleanup efforts by the public and private sectors across the nation. The Congress passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, in 1980. This law is the primary basis for the Defense Department's present cleanup program. In 1986, the Superfund Amendments and Reauthorization Act (SARA) formally established the Defense Environmental Restoration Program (DERP) and its funding mechanism, the Defense Environmental Restoration Account (DERA). In 1996, DoD decided to separate, or devolve, DERA into five Environmental Restoration (ER) accounts. Administration of these accounts occurs through the military components and agencies — Army, Navy, Air Force, Formerly Used Defense Sites (FUDS), and Defense-Wide. The last account includes the Defense Logistics Agency (DLA), the Defense Threat Reduction Agency (DTRA), and operating funds for the Deputy Under Secretary of Defense Environmental Security (DUSD(ES)) Cleanup Office. By devolving DERA, DoD intended to increase each Military Department's and agency's responsibility and accountability for environmental cleanup efforts. The Office of the Assistant Deputy Under Secretary of Defense for Environmental Cleanup has oversight responsibility for these accounts.

The Defense Environmental Restoration Program consists of three categories: Installation Restoration (IR), Other Hazardous Waste (OHW), and Building Demolition/Debris Removal (BD/DR). This report focuses on IR activities at active installations, FUDS, and installations undergoing base realignment and closure (BRAC). For the purposes of this report, the terms "DERP" and "Environmental Restoration Program" refer specifically to restoration activities (i.e., cleanup) at active installations, FUDS properties, and BRAC installations. Table 1 provides brief definitions of these and other key terms.

## Environmental Restoration Program

The goals of the Environmental Restoration Program include identification, assessment, investigation, and cleanup of sites<sup>1</sup> contaminated with hazardous substances, pollutants, and wastes resulting from past activities at current and former DoD installations. Funding for active installation cleanup comes from four of the five defense environmental restoration accounts. The fifth account applies to cleaning up Formerly Used Defense Sites. FUDS are properties that DoD owned, leased, or otherwise operated before 1986 but no longer controls. The U.S. Army Corps of Engineers manages the FUDS program and evaluates information concerning land transfer, current ownership, and the origin of contamination at FUDS properties to determine whether a site is eligible for DoD funding. This evaluation occurs in the Preliminary Assessment (PA) phase. If a FUDS property is eligible for DoD funding and further response is necessary, the identified FUDS property enters the cleanup process.

<sup>1</sup> In this report, the term "site" refers to a discrete area (or parcel) on an installation or former DoD property where cleanup actions are under way or where the investigation of possible contamination is occurring. In most instances there are many sites on a military installation or FUDS property.

Installations identified for closure through the Base Realignment and Closure rounds in 1988, 1991, 1993, and 1995 have a separate funding source—the BRAC account—which is included in the overall Military Construction appropriations. Environmental restoration activities at installations closing under the BRAC laws must include planning and

Table 1  
Cleanup Program and Funding Terms Used Throughout This Report

Term	Acronym	Description
Component		<p>Military Service (also referred to as Department) or Agency</p> <p>Department of the Army (includes FUDS)</p> <p>Department of the Navy (includes the Marines)</p> <p>Department of the Air Force</p> <p>Defense Logistics Agency</p> <p>Defense Threat Reduction Agency</p>
Defense Environmental Restoration Program	DERP	For purposes of this report, DERP refers to DoD's environmental restoration activities at active installations, BRAC installations, and FUDS properties.
Environmental Restoration	ER	Environmental restoration involves identification, investigation, and cleanup at active and BRAC installations and FUDS properties, including areas where contamination extends beyond installation boundaries.
Formerly Used Defense Sites	FUDS	FUDS are properties that DoD used in the past and for which DoD may have an environmental restoration responsibility. The U.S. Army Corps of Engineers manages the FUDS program.
Base Realignment and Closure	BRAC	Environmental restoration activities at BRAC installations are the same as at active installations. Funding for BRAC installations occurs through a separate appropriation in the BRAC account, different from the account for active installations and FUDS properties.
Installation Restoration	IR	Funded by five separate environmental restoration accounts, the military components implement IR activities at active installations and FUDS properties. At BRAC installations, IR activities are conducted by the Components and funded by the BRAC account.
Defense Environmental Restoration Account	DERA	This historical term describes cleanup funding for active installations and FUDS properties before devolvement occurred in FY97, separating funding into five separate accounts.

completion of environmental analysis for property disposal, which are required by the National Environmental Policy Act (NEPA). The BRAC account provides funds for this planning and for closure-related environmental compliance activities. Any property scheduled for realignment (that is, property that DoD will continue to use but for a new purpose) at an installation that is otherwise undergoing closure is accomplished under the appropriate active-base environmental restoration account.

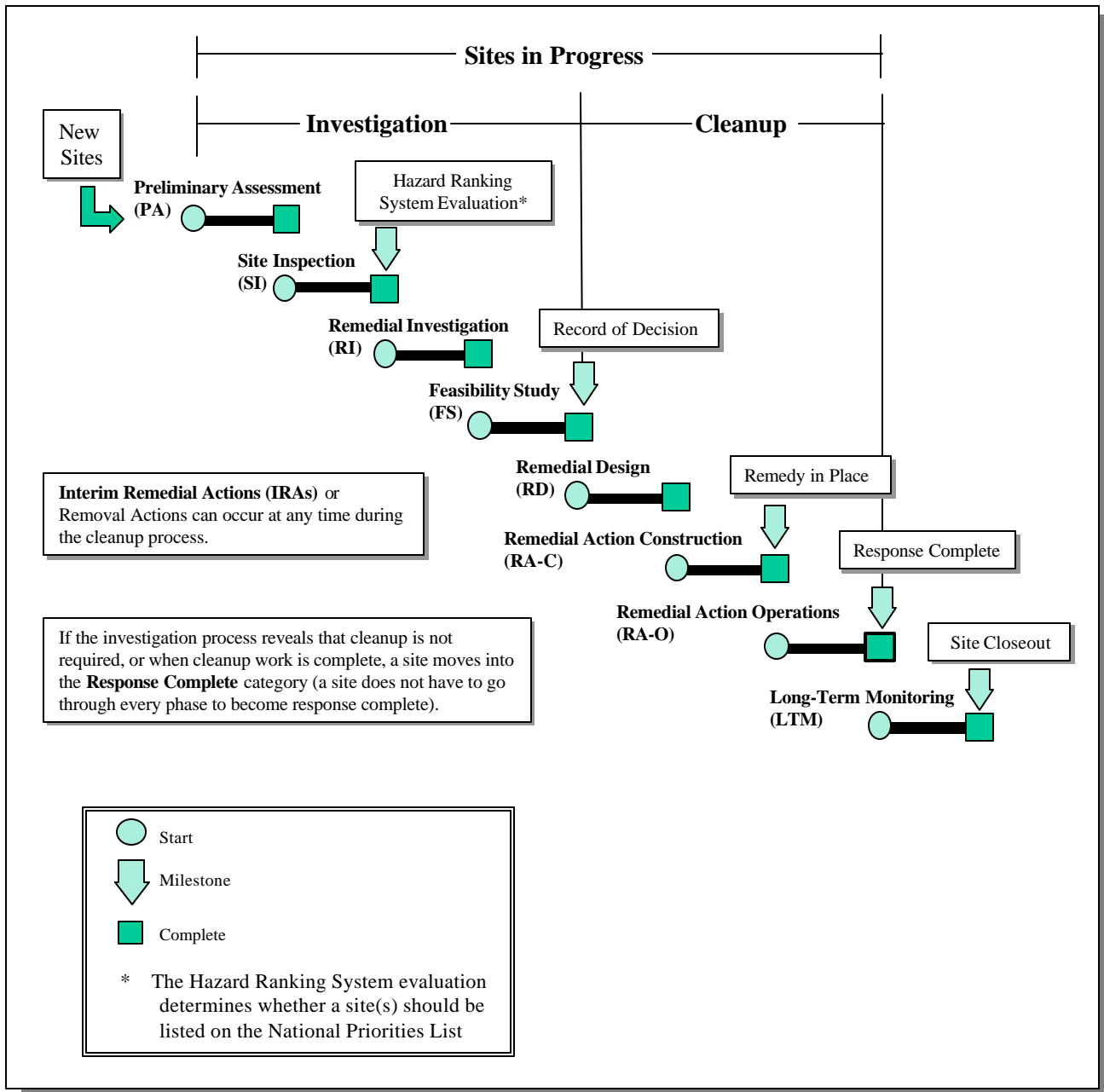
## The Cleanup Process

Environmental laws and DoD policy prescribe the procedures and management of environmental restoration sites identified at active installations, FUDS properties, or BRAC installations. The process of investigating contamination at a site, determining how to clean it up, and then performing the cleanup can be complex. There are several steps in the cleanup process, illustrated in Figure 1, which may include the following elements.

- The preliminary assessment and site inspection (SI) determine the likelihood of contamination and its possible sources.
- The remedial investigation (RI), which includes sampling and analysis, determines whether contamination is present; a risk assessment determines the significance of the contamination. The results of this phase determine whether cleanup is required.
- The feasibility study (FS) includes evaluation and selection of remedial options, such as new technologies.
- The remedial action includes the design (RD), construction (RA-C), and (where necessary) operation (RA-O) of the selected remedy.
- Long-term monitoring (LTM) measures the continued effectiveness of the cleanup activities.
- Site closeout (SC) occurs when the appropriate regulatory agency has agreed that the cleanup process is complete.

As sites progress through the cleanup process, DoD categorizes the sites to facilitate program monitoring and evaluation. Upon identification, a new site enters the *site investigation category*. This starts with the preliminary assessment/site inspection phase in which the site is evaluated to determine the presence, extent, and source of contamination. If further investigation is necessary, the study of the site continues through the remedial investigation and feasibility study phase. If this phase determines that cleanup activities must occur to protect human health and the environment, the phase concludes with the establishment of cleanup objectives and the selection of cleanup technologies. Sites that require cleanup move into the *site cleanup category*. Cleanup begins with design of the remedy, followed by construction and, if necessary, operation of the remedy. When all intended cleanup activities at a site are complete, or if cleanup is not necessary, the site moves to the *response complete (RC) category*. After a site achieves RC, it may require long-term monitoring and five-year reviews by DoD and the regulators to confirm the accomplishment of cleanup objectives and to determine suitability for site closeout. In addition, the implementation of interim remedial actions, which are short-term actions to contain or

Figure 1  
Cleanup Process Phases and Milestones



remove immediate contamination threats to human health and the environment, can occur at any point in the program. Interim actions also help to accelerate the program and may be the only response action necessary to clean up a site.

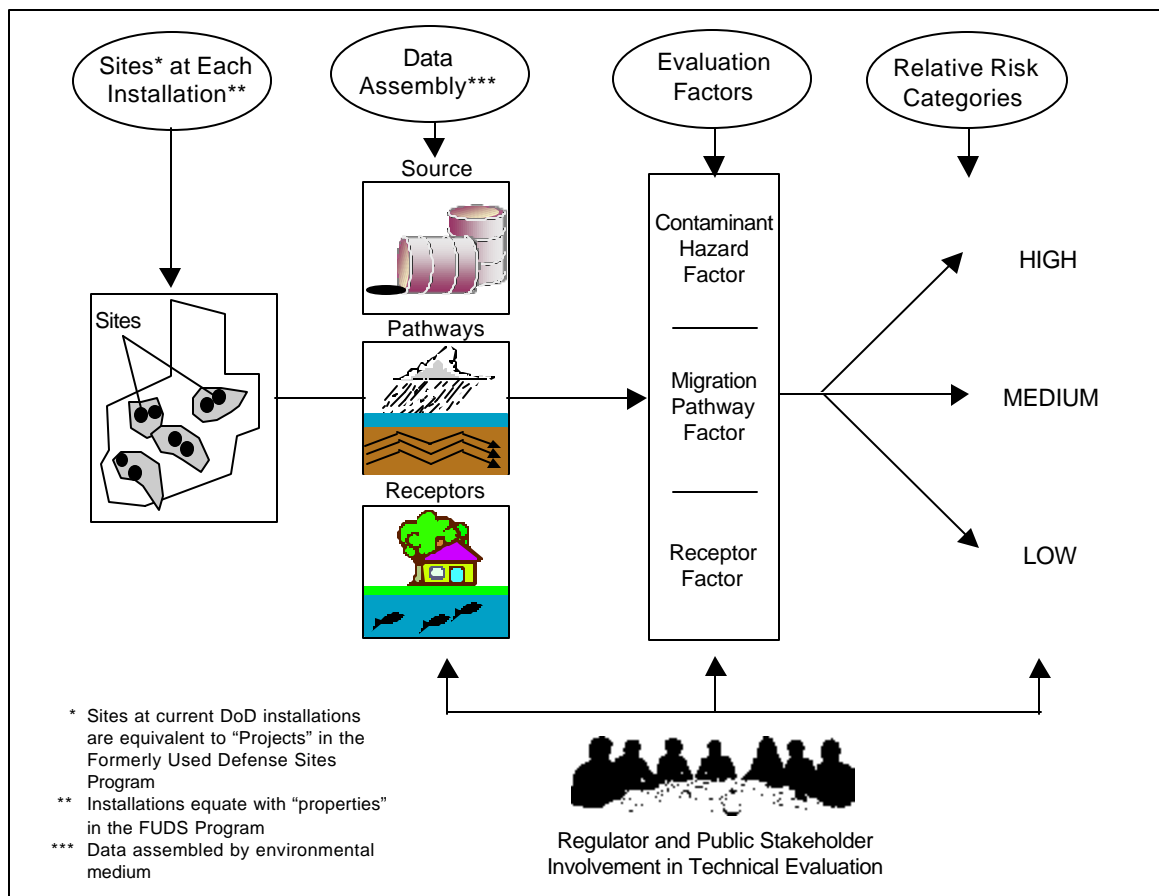
The term *in-progress* categorizes sites in the investigation category (PA/SI and RI/FS) or the cleanup category (remedial design, remedial action construction, and remedial action operation), and sites undergoing an interim remedial action. This report uses the term *in-progress* frequently. The number of sites *in-progress* changes as the cleanup program evolves through the identification of new sites and the movement of sites to RC.

## Site Cleanup Prioritization

Since DoD manages thousands of environmental restoration sites across the nation, it needed a tool to aid in sequencing site requirements to address the most serious threats to human health and the environment first. As a result, DoD developed a management tool called relative risk site evaluation (RRSE). This tool allows stakeholders to evaluate the relative risk posed by a site compared with other sites. This methodology, developed in coordination with regulator and community stakeholder groups, ensures a corporate understanding and builds support for this approach. RRSE groups sites into high-, medium-, and low-relative-risk categories based on an evaluation of site information concerning three factors: extent of contamination, the possibility that the contamination will migrate from the source, and exposure to human and ecological “receptors.” Evaluation of media (i.e., groundwater, surface water and sediment, and soil) against these three factors must be done to determine the relative risk category (Figure 2).

The RRSE category, in conjunction with other risk management considerations, such as risk assessments, statutory and regulatory status, program goals, public stakeholder concerns, and economic factors, helps determine a site’s funding priority. This concept is known as “risk plus other factors.” In addition, the use of RRSE as a programmatic tool is helpful for measuring work accomplished by tracking the reduction of the number of sites in each relative risk category.

Figure 2  
Summary of the Relative Risk Site Evaluation Process





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DoD Relative Risk Site Evaluation Primer

<http://www.dtic.mil/envirodod/relrisk/relrisk.html>

## The Budget Process

DoD's budget authority constitutes 15 percent of the total federal budget authority for FY99. The investment in environmental programs was \$4.6 billion, which made up more than 1 percent of the DoD budget. Environmental restoration was almost one half of the DoD environmental budget. This demonstrated DoD's substantial commitment to managing and remediating environmental concerns resulting from past contamination. Appropriate allocation of that funding for cleanup activities depended on many factors, including identification of new sites, issuance of new policies and guidance, and promulgation of new regulations. Budgeting for the Environmental Restoration Program required stable funding and flexibility in selecting cleanup remedies. At the same time, planning must be rigorous and consistent over time to meet the requirements of the DoD budget process. Construction of the overall DoD budget begins at the site level and builds to the Component level within the guidelines provided by stable funding. Stable funding provides the ability to plan—and make commitments. This process consists of the following interrelated phases: planning, programming, budget development, and program execution. Figure 3 illustrates this process.

### The Planning Phase

In this phase, DoD develops and provides program goals to the Components by using the *Defense Planning Guidance* (DPG). The DPG is the primary tool for guiding DoD's investment in weapons systems, readiness, and in this case, the environment. DPG goals for the Environmental Restoration Program include reducing risk to human health and the environment at sites; making property at BRAC bases environmentally suitable for transfer; and having final remedies in place or achieving response complete status at sites and installations. Based on DoD and supporting Component guidance, each installation develops site-level requirements for achieving these DoD goals. These requirements are in each installation's management action plan (MAP) or BRAC Cleanup Plan (BCP) (discussed on page 13). The installation reviews and updates its MAP or BCP at least once each year to reflect changes in priorities, additional information on cleanup sites, policies, legislation, performance measures, and availability of funding. The best opportunity for stakeholder involvement and input occurs at this stage—at the installation level, when identification of new needs or annual revalidation of continuing requirements occurs.

### The Programming Phase

The Components use the requirements identified in their respective installation MAPs and BCPs to prepare their input to the *Program Objective Memorandums* (POMs). The

POMs are long-range plans, covering a 5- to 6-year time frame, which demonstrate how the Components will achieve the requirement set out in the DPG. Each summer, the Office of the Secretary of Defense (OSD) reviews the Components' POMs and issues any program decisions (referred to as Program Decision Memorandums) to the Components to assist them in their preparation of the *budget estimate submittal*.

## Budget Development

In the final phase of the budget process, the Components develop and submit budget estimates to OSD for review and approval. A stringent budget review conducted over 3 to 4 months in the fall of each year resolves any major issues or concerns. A major concern to DoD during this phase is reconciling DoD requirements with budget targets established by the Office of Management and Budget (OMB). A major concern to the DUSD(ES) Cleanup Office is requesting sufficient funding to meet the DPG goals. DoD then submits its budget to OMB for further review and approval before forwarding the budget to the President for signature. The President submits the budget to Congress early in the following calendar year (CY). The time frame associated with the development of each year's budget encompasses several years. For instance, the identification and updating of the environmental restoration requirements for the fiscal year 2000 (FY00) budget submission occurred at the installations from 1996 through 1998. The installation personnel documented these requirements in their MAPs and BCPs. After this 2-year development process, the President submitted the FY00 budget to Congress in early CY99. The FY01 budget requirements will follow a similar process, and the President will submit his FY01 budget request to Congress in early CY00.

## Program Execution

When the Congress approves the budget, the five environmental restoration transfer accounts managed by the Components receive funds.

- Environmental Restoration, Army
- Environmental Restoration, Navy
- Environmental Restoration, Air Force
- Environmental Restoration, FUDS
- Environmental Restoration, Defense-Wide (including DLA, DTRA, and the DUSD(ES)/CL operating budget)

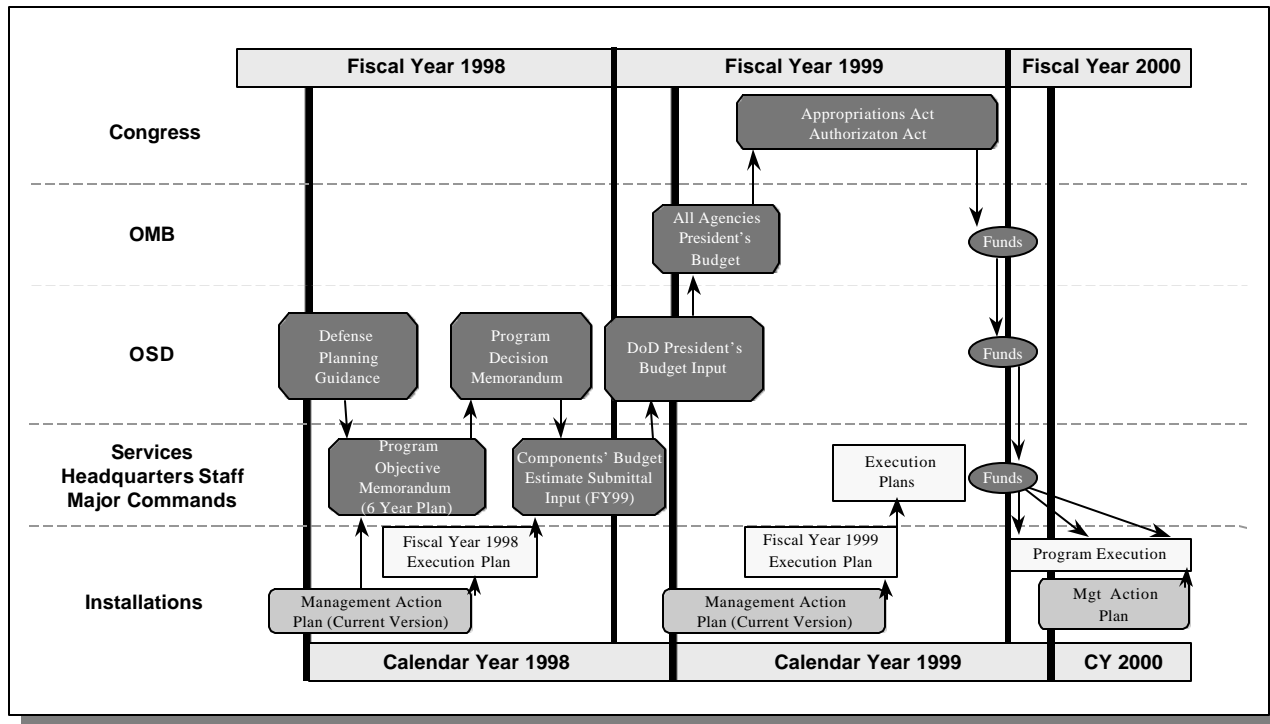
The military components are responsible for allocating funds to subordinate units to execute the program. A part of DoD's program oversight responsibility is monitoring the obligation of funds for fulfilling such commitments as civilian pay, investigation contracts, and cleanup contracts, along with monitoring the outlay (financial payment) of funds to contractors. Program execution allows implementation of the cleanup program.



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Guide to the DoD Environmental Security Budget  
<http://denix.cecer.army.mil/denix/Public/Library/Envirsb/envirsb.html>

Figure 3  
Cleanup Budget Process



## Management Action Plans

DoD developed the Management Action Plan, or MAP, to function as the key document for managing an installation's environmental restoration program. The extensive planning required to develop a roadmap for cleanup and to obtain the necessary funding takes place at the installation level. A MAP is an installation-level planning document that consolidates information about an installation's past accomplishments, provides current site status, presents a vision for future site-level requirements, establishes schedules, and identifies funding requirements through the completion of site closure with the appropriate regulators. Installation-specific MAPs are essential building blocks for the budget process. Installation personnel update MAPs at least once each year to ensure that site-level requirements are current, since requirements can evolve significantly over time.

In March 1998, OSD issued a revised DERP Management Guidance. The Management Guidance further defined and elaborated on the purpose of installation and FUDS property MAPs, minimum content requirements, and requirements for regulatory agency and community stakeholder involvement in

*A living document, the MAP provides a snapshot of installation restoration activities—*

- History
- Response actions taken
- Site status
- Contaminants of concern
- Future site-level requirements
- Schedule
- Cost to complete estimate



the MAP development and review process. The MAP is the best vehicle for obtaining regulatory agency and stakeholder input into environmental restoration planning, work sequencing, and budgeting at an installation. Since the development and updating of MAPs occur at the installation level, regulatory agencies and community stakeholders have opportunities for input on relative risk site evaluations, work sequencing, schedules, and project funding.

This open and interactive approach to MAP development is an example of DoD's commitment to building community trust and implementing the recommendations of the Federal Facility Environmental Restoration Dialogue Committee (FFERDC).<sup>2</sup> MAPs incorporate the results of discussions between DoD, regulators, and community stakeholders. DoD uses this dialogue to increase regulatory and community participation in the overall environmental restoration process.



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DERP Management Guidance

<http://denix.cecer.army.mil/denix/Public/ES-Programs/Cleanup/DERP/guide.html>

At major BRAC installations where DoD is transferring property outside the Department, the BCP serves the same function as the MAP. Required since 1993, the BCP is the management tool used by the installation BRAC Cleanup Team to—

- Expedite and improve environmental response actions
- Focus cleanup efforts on sites posing higher risk or having higher reuse potential
- Integrate community redevelopment activities and schedules while protecting human health and the environment.

The BCP is a result of a “bottom-up review” of the installation’s entire environmental program, and the installation updates it regularly to reflect status, strategy, and schedule changes. In addition, installations prepare a BCP abstract and forward it to DoD each November. The BCP abstract facilitates review of Fast-Track Cleanup successes and identification of issues, assists with trend analysis, and helps track progress.

*The BCP is a concise living document containing a snapshot of environmental programs and a macro-level strategy and schedule for accelerating environmental cleanup activities including—*

- Brief history
- Property disposal and reuse plans
- Installation-wide environmental program status and strategy
- Master schedule
- Technical issues to be resolved



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Fast-Track Cleanup at Closing Installations

<http://www.dtic.mil/envirodod/brac/reissued.html>

<sup>2</sup> The FFERDC report, the result of a multiyear effort by stakeholders from DoD, EPA, other federal agencies, state and local governments, and environmental interest groups, presents these recommendations. When read as a whole, it represents a consensus statement on the part of the participants to guide the federal environmental cleanup program.

The design of the program described in the MAP and BCP combines the cleanup process requirements with the budget process while embracing the requirements of extensive planning, opportunities for streamlined cleanups, and building cohesive partnerships with regulators and community stakeholders. Fidelity to the MAP and the BCP ensures DoD's ability to *build trust and do the right thing* to deliver a comprehensive Environmental Restoration Program that protects human health and the environment at each installation.

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This section of the annual report briefly presented the major programmatic elements of the Environmental Restoration Program. Statutorily mandated elements and DoD's own management tools and processes contain drivers that mandate stakeholder involvement and program improvements.

The rest of this report details Environmental Restoration Program progress. It demonstrates DoD's commitment to being a good steward of the resources it manages and a responsible corporate citizen.